



Water Resources ♦ Flood Control ♦ Water Rights

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Via email: snluoma@ucdavis.edu

Dr. Samuel Luoma, Editor-in-Chief
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Subject: Comments concerning the paper "Evolution of Arability and Land Use, Sacramento-San Joaquin Delta, California"

Dear Dr. Luoma:

Provided below are comments on the above paper published in the July 2015 edition of your journal (Volume 3, Issue 2, 2015). The paper estimates the increase in acreage of wet, non-farmable, and marginally farmable (WNMF) land between 1984 and 2012. The authors then hypothesize that this increase is due to subsidence of organic soils, and the subsequent seepage through the exposed substrate. The paper then estimates the increased acreage of WNMF into the future. The paper also indicates that a similar phenomenon causes land use to change from production farming to grazing.

Our firm has been involved with Delta islands for over 40 years. I personally have been involved for 32 years. Currently we are the engineer for 31 Delta reclamation districts. In the role of District Engineer, we provide services in the areas of flood control, drainage and irrigation. Most of our work is in the central and north Delta, and since we assist with drainage, we are well aware of the issues of farming on ground where seepage could be an issue.

Based on our experience and knowledge of the farm ground within the reclamation districts we represent, we have found that most of the current WNMF acreage cited in this paper is not the result of subsidence and seepage. The attached map, an excerpt from the paper, shows the reason the properties shown are not farmed. There are a number of reasons each of these properties are not farmed, which are summarized in the following general categories.

Scour – When a levee breaches and floods an island, in most cases the force of the water flowing onto the island scours away farm ground. In some cases this scour is large enough to render restoration of the property infeasible. What then remains is a lake surrounded by riparian forest and scrub shrub habitat.

Habitat – This category is indicated on the map for properties that have been deliberately developed into habitat areas. This category includes private habitat development, habitat developed as part of state and federal easement purchases, and mitigation areas. These areas were not developed into habitat due to the inability to farm; in fact, the properties neighboring these properties continue to be very productive. For instance, a property on Empire Tract is surrounded by walnuts, blueberries, alfalfa, and row crops.

Borrow – Delta levees have been significantly upgraded the past 25 years, and especially the last nine years since passage of Propositions 84 and 1E. The least expensive source of levee material is that which is located on the island. Therefore borrow pits have been developed on many islands to supply the needs of levee rehabilitation projects. Most of the time material is excavated below the water table, and the property develops into a lake surrounded by riparian habitat.

Other – This category includes a number of other reasons ground is no longer farmed. Included in this category are things such as the City of Isleton sewer ponds; the Grand Island Corps of Engineers dredge disposal area; Prospect Island, which the landowners have never fully reclaimed since it flooded in 1995; and historic lakebeds that have never been farmed.

The attached map shows the WNMF ground we are aware of that is not farmed for one of the above four categorized reasons. A little investigation into the remaining WNMF ground would yield additional ground not farmed for reasons other than seepage.

The paper also cites seepage as the reason some farm ground has shifted use from field crops to pasture. We also think this assumption should be further investigated. In our experience, the shift most likely occurred due to water quality and the buildup of salts in the soils. For instance, most of the Sherman Island property was purchased by the state due to the inability to maintain water quality as agreed in the state contract with the North Delta Water Agency (NDWA). The state was faced with having to build the “overland facilities” as defined in the NDWA contract. It was cheaper for the state to purchase land than construct the overland facilities. Once enough property on Sherman Island was purchased, a petition was filed to move the NDWA contract compliance point from Emmaton up to Threemile Slough, thus alleviating the state commitment to provide suitable-quality water to Sherman Island. One last comment on pasture land: the paper indicates pasture land on Empire Tract has increased between 1976 and 2007. I have spent a lot of time on Empire Tract since 1984 and there is no pasture land on Empire Tract.

To summarize, the paper should have spent more time investigating the properties in question before applying its theory.

Thank you for the opportunity to provide these comments. If you have any questions, please call me at (916) 456-4400, or email me at cosio@mbkengineers.com.

Sincerely,
MBK ENGINEERS

A handwritten signature in blue ink, appearing to read 'Gilbert Cosio Jr.', with a stylized flourish at the end.

Gilbert Cosio Jr.

GC/jw

2526/DR SAMUEL LUOMA 09-04-2015

cc: (via email)

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